



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/683,545

10/10/2003

Hideomi Suzawa

0553-0172.02

2637

7590

07/16/2004

Edward D. Manzo
Cook, Alex, McFarron, Manzo,
Cummings & Mehler, Ltd.
200 West Adams St., Ste. 2850
Chicago, IL 60606

EXAMINER

NHU, DAVID

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/683,545

Applicant(s)

SUZAWA ET AL.

Examiner

David Nhu

Art Unit

2818

Am

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 14-19 is/are rejected.
- 7) ☒ Claim(s) 3-4, 15-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10/189,935; 09/535,835.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

[Signature]

DETAILED ACTIONS

Specifications

1. Pages 6, 7, Change "Fig. 1" to -Fig. 1A-1C--, "Fig. 2" to -Fig. 2A-2B--, "Fig. 3" to -Fig. 3A-3C--, "Fig. 4" to -Fig. 4A-4B--, "Fig. 5" to -Fig. 5A-5C--, "Fig. 6", to -Fig. 6A-6B--, "Fig. 7" to -Fig. 7A-7B--, "Fig. 8" to -Fig. 8A-8E--, "Fig. 9" to -Fig. 9A-9E, "Fig. 10" to -Fig. 10A-10D--, "Fig. 11" to -Fig. 11A-11B--, "Fig. 12" to -Fig. 12A-12B--, "Fig. 16" to -Fig. 16A-16C--, "Fig. 17" to -Fig. 17A-17D--, "Fig. 18" to -Fig. 18A-18B--, "Fig. 19" to -Fig. 19A-19C--, "Fig. 20" to -Fig. 20A-20B--, "Fig. 21" to -Fig. 21A-21B--, "Fig. 22" to -Fig. 22A-22F--, "Fig. 23" to -Fig. 23A-23D--, "Fig. 24" to -Fig. 24A-24C--

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 2, 5-9 are rejected under 35 U.S.C. 102 (e) as being anticipated by Kim et al (6,204,081 B1).

Regarding claim 1, Kim, (see figures 4, 5a, 5b, col. 4, lines 20-67, col. 5, lines 1-67, col. 6, lines 1-45), teach a semiconductor device comprising: (see figures 4, 5a), a first conductive film 270 formed over an insulating substrate 110; an inorganic insulating film 150 covering said first conductive film; an organic resin film 155 covering said inorganic insulating film; a contact

Art Unit: 2818

hole 130 b that goes through said inorganic insulating film and said organic resin film; and a second conductive film 240 formed over said organic resin film and connected to said first conductive film at a bottom surface of said contact hole (see figure 4).

Regarding claims 2, 5-9, Kim, (see col. 4-6, lines 1-67), also teach the contact hole is formed by performing an etching process; a thin film transistor (TFT) electrically connected to said first conductive film 270; the second conductive film is pixel electrode 240; the inorganic insulating film 150 is a silicon nitride/oxide film; wherein the semiconductor device includes LCD....

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14, 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazaki (5,477,359) in view of Kim et al (USP: 6,204,081 B1).

Regarding claim 14, Okazaki, (see figure 9, col. 9, lines 20-67), teach a semiconductor device comprising: a substrate 207; a source region 208 and drain region 209 which are provided over said substrate with a channel region (below gate insulating 211) provided over said substrate between said source and drain region; a gate electrode 210 provided over said substrate and provided adjacent to said channel region with a gate insulating film 211 between said gate electrode and said channel region; a wiring 204b, 204c provided over and connected with one of source region and drain region.

Okazaki fails to teach an inorganic insulating film provided over said wiring; an organic resin

film provided over said inorganic insulating film; a contact hole provided through said inorganic insulating film and said organic resin film; and a pixel electrode provided over said organic film and connected with said wiring through said contact hole.

However, Kim, (see figures 4, 5a-5b, col. 4, lines 20-67, col. 5, lines 1-67, col. 6, lines 1-45), teach an inorganic insulating film 150 provided over said wiring 270; an organic resin film 155 provided over said inorganic insulating film; a contact hole 130b provided through said inorganic insulating film and said organic resin film; and a pixel electrode 240 provided over said organic film and connected with said wiring through said contact hole.

Regarding claims 17-19, Okazaki, (see figure 9, col. 9, lines 20-67, Kim, figures 4, 5a-5b, col. 4, lines 20-67, col. 5, lines 1-67, col. 6, lines 1-45) also teach the contact hole is formed by performing an etching process; a thin film transistor (TFT) electrically connected to said first conductive film 270; the second conductive film is pixel electrode 240; the inorganic insulating film 150 is a silicon nitride/oxide film; wherein the semiconductor device includes LCD....

It would have been obvious to one having ordinary skill in the art at the time of the present invention to apply the teachings of Kim into the method of Okazaki as both are related to the same subject matter of manufacturing a semiconductor device having over a substrate first and second conductive layers with an inorganic insulating layer, an organic insulating layer, a contact hole and a pixel electrode 240 which is provided through the inorganic and organic insulating layers 150, 155 and connected with the wiring 270 through the contact hole 130b.

Allowable Subject Matter

6. Claims 3-4, 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Inoue'206, Yamazaki'139, Kubo'109 are cited as of interest.

8. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see 710.02 (b)).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Nhu, (571)272-1792. The examiner can normally be reached on Monday-Friday from 7:30 AM to 5:00 PM. The examiner's supervisor, David Nelms can be reached on (571)272-1787.

The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

David Nhu 

July 8, 2004

